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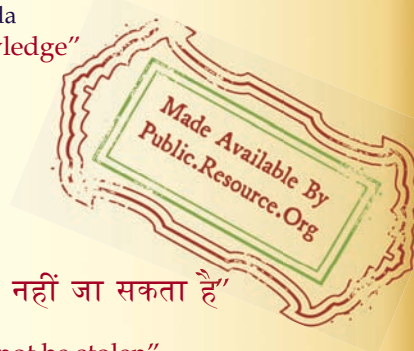
IS 3810-3 (1977): Glossary of terms relating to solid mineral fuels; Part III Terms relating to coke [PCD 7: Solid Mineral Fuels]



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*Indian Standard*  
GLOSSARY OF TERMS RELATING TO  
SOLID MINERAL FUELS

**PART III COKE**

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**BUREAU OF INDIAN STANDARDS**  
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*Indian Standard*GLOSSARY OF TERMS RELATING TO  
SOLID MINERAL FUELS

## PART III COKE

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## *Indian Standard*

### GLOSSARY OF TERMS RELATING TO SOLID MINERAL FUELS

#### PART III COKE

#### 0. FOREWORD

**0.1** This Indian Standard ( Part III ) was adopted by the Indian Standards Institution on 15 April 1977, after the draft finalized by the Solid Mineral Fuels Sectional Committee had been approved by the Chemical Division Council.

**0.2** This standard now consists of three parts as follows:

Part I Coal and its preparation,  
Part II Coal sampling and analysis, and  
Part III Coke.

The glossary of terms relating to coal and its preparation, earlier covered in IS : 3810-1966\* now forms Part I of this standard and is being revised with a view to aligning it with ISO 1213 'Vocabulary of term relating to solid mineral fuels'. The Sectional Committee responsible for the preparation of this standard decided to enlarge the scope by including the terms relating to coal sampling and analysis ( Part II ) and coke ( Part III ).

**0.3** This standard consists of a list of terms commonly employed in coke industry. Terms relating to sampling and analysis of coal, covered in Part II of the standard, may also be applied for coke with suitable modification, wherever necessary and have, therefore, not been covered here to save repetition. In this standard some of the terms have their equivalents shown in brackets; use of such equivalents is deprecated.

#### 1. SCOPE

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**1.1** This standard ( Part III ) covers terms and definitions relating to coke.

**1.1.1** Terms and definitions relating to sampling and analysis of coal given in Part II of this standard may be used wherever necessary, with suitable modification.

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\*Glossary of terms used in coal preparation practice.

## 2. TERMS

### 2.1 General

**2.1.1 Coke** — The solid residue of the distillation of coal at high temperature ( above  $900^{\circ}\text{C}$  ).

**2.1.2 Foundry Coke** — Coke prepared in coke ovens for use in foundry cupola furnaces; usually large, and strong.

**2.1.3 Blast Furnace Coke** — Coke specially prepared in coke ovens for use in blast furnaces.

**2.1.4 Wharf Coke** — Coke collected at the wharf of the coke ovens.

**2.1.5 Skip Coke** — Coke collected at the discharge point of the skip car of the blast furnace.

**2.1.6 Stabilized Coke** — Coke which has been subjected to a treatment of preparation before testing as prescribed in Appendix C of IS : 439-1976\*.

**2.1.7 Cauliflower End** — That portion of coke which comes in contact with the coke oven wall.

**2.1.8 Centre of Oven End ( Spongy End )** — End of the coke piece corresponding to the centre line of cleavage.

**2.1.9 Beehive Coke** — The solid residue of the distillation of coal in beehive coke ovens.

**2.1.10 Low Temperature Coke** — The solid residue of low temperature distillation of coal (  $550$  to  $750^{\circ}\text{C}$  ).

**2.1.11 Domestic Coke** — Coke produced by any process for domestic purposes.

**2.1.12 Graded Coke** — Coke which has been screened between two specified sizes.

**2.1.13 Fine Coke ( Breeze )** — Coke generally in the size range of  $0$  to  $10$  mm.

**2.1.14 Small Coke ( Pearl Coke )** — Coke generally in the size range of  $10$  to  $25$  mm.

**2.1.15 Medium Coke ( Nut Coke )** — Coke generally in the size range of  $25$  to  $40$  mm.

**2.1.16 Mixed Coke** — Coke generally in the size range of  $0$  to  $40$  mm.

**2.1.17 Large Coke** — Coke having size range of  $25$  to  $100$  mm.

**2.1.18 Extra Large Coke** — Coke above  $100$  mm size.

### 2.2 Size Analysis

**2.2.1 Differential Size Analysis** — The division of a sample into size fractions with defined limits, the proportion of the fractions being

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\*Specification for industrial coke ( *second revision* ).

expressed as percentages of the total sample, commonly with an indication of the percentage ( and other characteristics, if required ) of each fraction.

**2.2.2 Cumulative Size Analysis** — The summation of two or more successive fractions retained on a particular screen size expressed as a percentage of the total mass.

**2.2.3 Grading ( Screening )** — The commercial operation of sorting coke between two screens, by causing one component to remain on the screen through which the other components pass.

**2.2.4 Hand Shaking** — The operation in which a sieve is held in the hands and is given a horizontal oscillatory motion with a throw of about 75 mm.

**2.2.5 Hand Placing** — The operation in which the screen remains stationary and each piece of coke is handled; if a piece, in some position and without forcing, passes through the screen aperture it shall be considered as under size.

**2.2.6 Mechanical Sieving** — The operation in which a set of sieves is agitated by mechanical means.

**2.2.7 Struck Levelling** — A method of levelling the coke surface in a container when determining bulk density, whereby a straight edge is slid across the top of the container, any piece of coke which touches the straight edge being removed.

## 2.3 Physical Properties

**2.3.1 Abrasion** — Particle size reduction caused by the rubbing of pieces of coke against each other or against a hard surface.

**2.3.2 Breakage** — Particle size reduction resulting from impact.

**2.3.3 Shatter Index** — The percentage of coke retained on a sieve of stated aperture after being subjected to the shatter test ( *see 3* of IS: 1354-1964\* ).

**2.3.4 Micum Index** — The percentage of coke retained on a 40 mm test sieve or passing a 10 mm test sieve after being subjected to the standard micum test ( *see 4* of IS: 1354-1964\* ).

**2.3.5 Bulk Density** — The mass per unit volume occupied by a coke sample.

**2.3.6 Relative Density ( Apparent )** — The ratio of the mass of a volume of dry coke of any size to the mass of an equal volume of water at a specified temperature.

**2.3.7 Porosity** — The volumetric proportion of voids within a piece of coke. The difference between the true relative density and the apparent relative density of a sample of coke expressed as percentage of the true relative density.

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\*Methods of test for coke — special tests ( *revised* ).

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